DOCUMENT RESUME

ED 413 936 JC 970 595

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TITLE	High School and Community College Dual Enrollment: Issues of Rigor and Transferability.
INSTITUTION	Florida State Board of Community Colleges, Tallahassee.
PUB DATE	1997-00-00
NOTE	17p.
PUB TYPE	Reports - Research (143)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	College Transfer Students; *Community Colleges; Comparative Analysis; *Dual Enrollment; Followup Studies; Grade Point Average; High School Students; High Schools; Higher Education; *Outcomes of Education; *Program Effectiveness; Success; Two Year Colleges
IDENTIFIERS	Pensacola Junior College FL; Tallahassee Community College FL

ABSTRACT

In December 1993, the University of Florida issued a report that found that the vast majority of students who had taken chemistry courses in dual enrollment programs at a community college and who did not meet standard admissions requirements were required to retake their courses at the University. In response to the report, the state's Community College Board undertook a study to determine the effectiveness of the dual enrollment program. Findings were examined from studies completed by Pensacola Junior College (PJC) and Tallahassee Community College (TCC) of former dual enrollment students from 1991 and 1992 who did meet standard admissions requirements and who took English and history dual enrollment courses. In addition, systemwide data were collected on former dual enrollment students' performance at their university, as well as the frequency with which courses were repeated. The study found that former dual enrollment students from PJC had the same average grade point average (GPA) at the University of West Florida as all transfers to that university, while former TCC dual enrollment students at the UF had a slightly higher GPA than TCC transfers to the UF in general. Systemwide, of 51,382 dual enrollments for 1991-92, only 140 classes had to be retaken by students between 1992 and 1995, indicating that the program is providing a viable acceleration mechanism for students. Data tables are included. (BCY)

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HIGH SCHOOL AND COMMUNITY COLLEGE DUAL ENROLLMENT: ISSUES OF RIGOR AND TRANSFERABILITY

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HIGH SCHOOL AND COMMUNITY COLLEGE DUAL ENROLLMENT: ISSUES OF RIGOR AND TRANSFERABILITY

Introduction

As part of the overall attempt to maximize the use of state educational resources, Florida recognizes several types of acceleration credit, i.e., credit that can be used to satisfy both high school and college requirements. These include CLEP, AP (advanced placement), the IB (international baccalaureate) program, internal examinations and dual enrollment. The twenty-eight institutions in the public community colleges system of the state award more credit for dual enrollment than for any other acceleration mechanism. There were 24,738 dual enrollment students in 1995-96 who earned 179,363 hours of credit toward Associate in Arts (AA) degrees.

A December 1993 report produced by the Office of Instructional Resources at the University of Florida (Legg, 1993) indicated that the vast majority of former dual enrollment (DE) students entering that institution had to retake these courses. This meant the students lost collegiate credit for the DE courses and the state funded the courses twice. The Legg report was based upon students who "..did not meet the regular State University System admissions criteria.." (Ibid., p 3) or students who had earned dual enrollment credit in chemistry. After this report began circulating among the community colleges, several institutions decided to conduct follow-up projects of their own. These institutions wanted to look at students who would meet the regular admissions requirements and/or who took the more popular English and western civilization courses.

Method

Two community colleges, Pensacola Junior College (PJC) and Tallahassee Community College (TCC), have shared the results of their follow-up studies with the State Board of Community Colleges. Both institutions used basically the same process in obtaining their data and produced similar studies. The first step was to identify those students who had been dually enrolled. The social security numbers for these students were then shared with the university most often attended by students who transferred from the college. The University of West Florida (UWF) worked with PJC, while TCC worked with Florida State University (FSU). The universities produced data files indicating attendance, courses taken, grades, and overall GPA. Both colleges used the information contained in these files to produce summary reports. Tallahassee Community College also included results from internal college records in their study.

Sample

Pensacola Junior College limited their cohort to students who took the first and second level English courses (ENC1101 and ENC1102).

> The sample group consisted of sixty-eight (68) students who successfully completed (C or better) English 1101 and 1102 in a school-based dual enrollment class during the 1991-92 school year, and who requested their PJC transcripts be sent to UWF. (Atwell, p 1)

Tallahassee Community College identified all of the students who were registered in dual enrollment courses in fall 1990, fall 1991 or fall 1992.

State University System Results

Pensacola considered academic performance at UWF in two ways: cumulative GPA and grades in advanced writing courses, i.e., English courses other than ENC1101 or ENC1102.

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Fifty-two of the sample of students were found to have enrolled at UWF and to have a GPA. The average GPA for the group was 2.82. This was the same as the average GPA of all PJC students attending UWF in fall 1992 (SBCC, 1994). A categorical distribution of these GPA's is presented in Table 1. Four of the six with below C (2.00) averages had earned a grade of C in one or both of their dual enrollment English courses.

There were only thirteen grades available for advanced writing classes for these students at the time of follow-up. Although caution must be used with so small a sample, the preliminary distribution indicates similar positive results. Table 2 presents the distribution of the thirteen grades. Again, the students receiving low grades had C's in one or both of their dual enrollment English courses and low GPA's overall.

Table 3 indicates the college attendance of the cohort used by Tallahassee Community College. The table indicates whether they later enrolled, i.e., enrolled as a regular college student, at TCC, FSU, or both. The fall 1990 cohort of dual students contained 296 individuals. Based upon the information obtained from FSU, 98 or 33 percent attended the university, 136 or 46 percent attended TCC and 43 or 15 percent attended both. A total of 191 individuals or 64 percent of the cohort was found.

The results for the fall 1991 and fall 1992 groups were very similar. There were 352 individuals in the fall 1991 group. Of these, 107 or 31 percent attended FSU, 164 or 46 percent attended TCC and 24 or 7 percent attended both. Again, a total 64 percent of the cohort was located.

The fall 1992 group contained 391 individuals. This cohort had the lowest found rate of only 49 percent. This was expected since this was the group with the shortest calendar time

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between completing high school and follow-up. Of these individuals, 88 or 22 percent attended FSU, 108 or 28 percent attended TCC and 4 or 1 percent attended both.

The use of internal records allowed TCC to examine demographic changes over the three year period. There appears to be a trend toward more females and white students both taking dual enrollment courses and going on to FSU. In fall 1990, the TCC duals were 56 percent female and 77 percent white. By fall 1992 the female percentage had increased to 68 and white to 81. The same trend regarding gender is reflected in the percentages later attending FSU. Of the fall 1990 group, those enrolled at FSU were 57 percent female and 84 percent white. By fall 1992, the female percentage had increased to 75. However, the white percentage had declined a point to 83.

While the range in FSU GPA for these students is wide, the mean GPA is higher than the overall GPA of former TCC students attending FSU. The mean GPA for former duals from fall 1990, fall 1991 and fall 1992 is 2.96, 3.00 and 2.86 respectively. The mean GPA for all former students attending FSU in fall 1991, fall 1992 and fall 1993 was 2.80, 2.75 and 2.74 (SBCC, 1994).

Table 4 provides a direct comparison between the grades received as duals in ENC1101 and higher level English and literature courses taken at FSU. The comparison indicated that only three of the twenty-four individuals had to re-take ENC1101 at FSU and two of those had withdrawn from the dual enrollment course. None of the former dual enrollees made below a C in any FSU English or literature course.

Results from Internal Grade Comparisons

The second phase of the study conducted by Tallahassee Community College was based

upon internal tracking. This was done in two ways - the first was to compare the grade distributions of regular college students with those of the dual enrollment students; the second was to compare the grades earned in the first course with those earned in the sequence course, again controlling for dual enrollment status. Two sets of sequence courses were examined. The first was English which consisted of ENC1101 and ENC1102. The second was western civilization, EUH1000 and EUH1001.

The initial comparison of grades earned by dual enrollment status indicated that the grades earned by DE students (Table 5) were clearly higher than those earned by regular students in both sets of courses. The next step was to determine if this pattern of higher grades was also true if students were tracked individually into the next level course. Tables 6 - 9 show the relationship between the grade earned in the first course and the grade earned in the second course for both regular and dual enrollment students.

For both English (ENC1101 and ENC1102) and western civilization (EUH1000 and EUH1001), the dual enrollment students did better in the second course than the regular students. Since dual enrollment students have to pass a college placement test and be recommended by their high school principal prior to registering for a dual enrollment course, it is not surprising that they would have a higher grade distribution than the regular students.

System Evaluation

The next step in evaluating the dual enrollment program was to use system level data to see if these same trends held for community colleges as a whole. The Division of Community Colleges conducted a study of the success of former dual enrollment students in the State University System (SUS). The purposes of the system level study included an evaluation of the

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success of the program as well as the success of individual students. The study was based upon data contained in both the community college Student Data Base (SDB) and the university Student Data Course File (SDCF).

Cohort

The cohort was defined as all students identified on the 1991-92 SDB as being dual enrolled in a course that was applicable to an AA or AS (Associate in Science) degree or to a vocational certificate. This cohort was then matched against SDB and SDCF files for 1991-92 through 1994-95.

Students Served

During 1991-92, the community college system (CCS) enrolled 17,981 dual enrollment students in courses that would be applicable toward the AA, AS or a Vocational Certificate. The ethnic distribution of these students was - White 79.75%; Black 9.90%; Hispanic 5.85%; Asian 3.94%; Other 0.56% Females outnumbered males 58 to 42 percent.

System Level Results

Courses Taken

A total of 978 different courses were taken by dual enrollment students in 1991-92 with 189 of these taken by at least twenty-five students. Seventy-nine percent of these were in the area of Advanced and Professional. Vocational courses comprised 17.3 percent and GED Prep the remaining 3.7 percent.

Student Ability

The dual enrollment program is an acceleration program that is geared toward those high school students who are capable of doing college level work. Since the courses offered are the

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same as those offered on campus, the students allowed to take dual enrollment classes need to show the ability to be successful in the courses prior to being admitted to the class. One way of determining this ability is by passing the same entry level placement test (ELT) as that taken by entering college freshmen. During 1991-92 several different tests were used as placement tests. No attempt has been made to convert these different tests to a common score, rather each test is considered individually and then overall rates are determined. Future reviews will be clearer as the State has moved to a single entry level test. Table 10 displays the results of the placement tests. The passing rate for dual enrollments was higher than that of entering community college freshman. There were some failures recorded because students have to pass only the section related to the course they wish to take. Based upon these data, the dual enrollment program appears to be reaching those students it was intended to serve, i.e., those students who are ready for college level work while still in high school.

However, the data indicated that in rare cases students who had not passed the relevant section of an ELT were reported as taking a dual enrollment course. The Guidelines for Dual Enrollment Interinstitutional Articulation Agreements state that

> No student shall be enrolled in a college credit mathematics or English course on a dual enrollment basis unless the student has demonstrated adequate precollegiate preparation on the basic computational and communication skills assessment of the entry level placement test.

Colleges need to ensure that this provision is met.

Number of Courses Taken

Concern had been expressed that students were earning an excessive number of hours of dual enrollment credit that could not be applied toward a bachelor's degree. Since the available information is based upon snapshot data rather than transcripts, an effort was made to determine

the number of courses taken by dual enrollment students by dividing the students by age. It was felt that if the data were restricted to those students who were 16 or 17 in 1991-92, all of their dual enrollment work would be captured during the time frame involved. Age was determined by the difference between the year of the fall term and the birth year reported on the data base. The results were basically the same for both groups.

Calculated age in fall 1991	Number of dual enrollment courses
16 -	Range - 16 Mode - 2 Median - 2 75% Q3 - 3 95% - 6
17 -	Range - 18 Mode - 2 Median - 2 75% Q3 - 3 95% - 7

While the data indicated that there were some individuals who had taken more than ten courses, seventy-five percent of these groups took only three or fewer dual enrollment courses.

Where Students Go

The dual enrollment option was established to enrich the course opportunities for outstanding high school students and to provide an acceleration mechanism that would move students through the baccalaureate degree process quicker. An important area of interest of this review, therefore, was where students enroll after obtaining their high school degree. About seventy percent of the original cohort was located in the 1992-96 files of either the SUS or CCS. Thirty-four percent of the cohort - 6,100 students - attempted additional work in the CCS; 2,896 students or sixteen percent were enrolled in the SUS and 3,430 students or nineteen percent, did

work in both systems.

Of the students who eventually enrolled in the SUS, the top four receiving universities were the University of Florida with thirty percent, Florida State with twenty-three percent, the University of South Florida with fourteen percent and the University of Central Florida with twelve percent.

Repeating Courses

If students have to repeat the courses they took as dual enrollment students once they enroll at a university, then the acceleration aspect of dual enrollment is lost. Based upon the university study cited earlier, the CCS was concerned that former dual enrollment students might be in this situation. This would not only slow down a student's progress, but would contradict the idea behind Florida's Common Course Numbering System.

The 1991-92 SDB indicated that there were 51,382 unique dual enrollments for that reporting year, e.g., an enrollment of a student in a given course. When those enrollments were matched against the data pulled from the SUS SDCF for 1992-95 only 140 matches were found. In other words, there were only 140 times that a student had to retake, at the university level, the exact same course they had taken as a dual enrollment student. While not all former dual enrollment students attended the SUS, about thirty-five percent did. If one assumes that this thirty-five percent of students represents thirty-five percent of enrollments, less than one percent of enrollments are having to be repeated.

The course being repeated most often was ENC1101 with 42 occurrences. Furthermore, an examination of the grades earned in the dual enrollment part of these repeats indicated that less than half of the students were originally successful, i.e., had earned a grade of C or better, in

the dual enrollment course. ENC1101 is a Gordon Rule course, i.e., a course that must be completed with a C or better prior to advancing to other communications courses. Thus most of these repeats merely mirrored the course taking patterns of regular community college students and were not, by themselves, indicative of problems in the dual enrollment program. That is since a C is required in this Gordon Rule course for all community college and state university students, it is a course where it is not surprising to see a number of repeat attempts. Actually, the percentage of former dual enrolled students retaking ENC1101 is lower than that expected for students who initially take this course at the college.

Grades

In order for the dual enrollment program to be successful, the rigor of the courses must be the same as the regular courses. One measure of this is the grades earned in the next sequenced course. This report only looked at ENC1101 to ENC1102 and MAC1102 or MAC1104 to MAC, STA and MGF courses. This segment of the analysis was confined to these sequences because they were the ones that contained the most enrollments. Table 11 shows the percentage of students who were successful in their dual enrollment course, defined as earning a C or better, who were then successful in the SUS course, also defined as earning a C or better. Based upon that table, dual enrolled students were better prepared for STA or MGF sequences than for MAC.

Conclusion

Any program that serves a large population in a diversity of settings needs to be regularly monitored and evaluated. The Community College System must ensure the rigor of dual enrollment courses by requiring individual colleges to adhere to the standards put forth in the Guidelines for Dual Enrollment Interinstitutional Articulation Agreements. Two of those

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standards deal with the passing of the placement test and faculty qualifications which are to be at the same level as the SACS accreditation criteria. While dual enrollment students passed the ELT at a higher rate than did FTIC community college students, in rare cases, students who did not pass the appropriate section of the ELT were recorded as taking dual enrollment courses. Both of these standards need to be maintained as part of a successful dual enrollment program.

With thousands of students being served by twenty-eight different institutions, it is probably inevitable that not every student will be accelerated. However, based upon the results of these studies, there is no reason to believe the dual enrollment program, as currently implemented in the Florida Community College System, is not providing a viable acceleration mechanism for qualified high school students

Future Studies

The next step in the dual enrollment program review process will be to look at the effect taking dual enrollment courses has on time-to-degree. The students who take dual enrollment courses are often those who are interested in exploration at the college level as well as acceleration. Therefore, the upcoming results of transcript analyses must keep the student's true intent in mind.

Table 1
GPA Distribution for PJC Cohort at UWF

GPA	Number of Students	Percent of Student
3.50+	9	17.3
3.00-3.49	17	32.7
2.50-2.99	14	26.9
2.00-2.49	6	11.5
1.99 or less	6	11.5

Table 2
Grade Distribution for Advanced Writing Courses

Grades	Number
A- / A+	3
B- / B+	5
C- / C+	3
D / F	2

Table 3
Attendance Patterns of Former Dual Enrollment Students
(Limited to FSU and TCC)

Outcome	Fall 90 (n=296)	Fall 91 (n=386)	Fall 92 (n=391)
Attended TCC	136	164	108
Attended FSU	98	107	88
Attended both	43	24	4
Total Number Located	191	247	192
Percent Located	64	64	49

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Table 4
Grade Comparison

Dual Enrollment Course	DE Grade	FSU Course	FSU Grade
ENC1101	A	ENC1102	B
ENC1101	A	ENC1102	B+
ENC1101	A	ENC1142	A-
ENC1101	A	LIT2020	A
ENC1101	A	LIT2020	A-
ENC1101	A	LIT2020	A-
ENC1101	A	LIT2020	B-
ENC1101	A	LIT2020	C
ENC1101	A	LIT2081	C
ENC1101	A	LIT4322	B-
ENC1101	B	ENC1102	A
ENC1101	B	ENC1142	A
ENC1101	B	ENC1905	S
ENC1101	B	LIT2020	A
ENC1101	B	LIT2020	A-
ENC1101	B	LIT2020	B+
ENC1101	B	LIT2020	C
ENC1101	B	LIT2081	B
ENC1101	C	ENC1101	B-
ENC1101	C	ENC1102	A
ENC1101	C	ENC1905	S
ENC1101	W	ENC1101	A-
ENC1101	W	ENC1101	B+
ENC1101	W	ENC1145	B

Table 5
Comparison of Selected Grades
By Dual Enrollment Status

Grades	ENC1101 (Fall 1993)		ENC1102 (Fall 1994)	
	Dual Enrollment Status		Dual Enrollment Status	
	No (n=1301)	Yes (n=176)	No (n=941)*	Yes (n=89)
A	17.37	31.82	19.34	24.72
B	28.67	43.75	29.33	38.20
C	23.21	19.32	17.64	19.10
D	4.46	1.14	5.42	3.37
F	10.45	0.57	9.03	6.74
I	2.54	0.57	2.13	4.49
W	13.30	2.84	16.79	3.37

Table 5 (cont.)

Grades	EUH1000 (Fall 1993)		EUH1001 (Fall 1994)	
	Dual Enrollment Status		Dual Enrollment Status	
	No (n=609)**	Yes (n=158)	No (n=941)	Yes (n=89)
A	7.88	42.41	9.94	32.21
B	17.08	30.38	21.14	30.87
C	25.62	13.92	27.91	22.15
D	11.33	5.70	9.51	7.38
F	15.60	3.16	14.16	4.03
I	0.99	3.80	1.27	0.00
W	20.53	0.63	16.07	3.36

* 0.32 percent of the students received miscellaneous grades of X.
** 0.99 percent of the students received miscellaneous grades of X or Z.

Table 6
Comparison of Original and Sequence Grades
Percentage of Total for Regular Students
(N-554)

ENC1101 Grade	ENC1102 Grade						
	A	B	C	D	F	I	W
A	9.93	8.48	1.99	0.18	1.08	0.36	0.72
B	7.58	16.97	7.94	1.81	2.71	0.54	4.51
C	1.62	7.58	8.30	4.15	3.07	1.08	5.60
D	0.18	0.36	0.18		0.18		0.18
F			0.18				
I		0.54	0.18		0.18		0.90
W		0.18	0.36				

Table 7
Comparison of Original and Sequence Grades
Percentage of Total for Dual Enrollment Students
(N-88)

ENC1101 Grade	ENC1102 Grade						
	A	B	C	D	F	I	W
A	20.45	19.32				2.27	
B	4.54	18.18	7.95	1.14	2.27	2.27	1.14
C		1.14	10.23	2.27	4.54		
D							
F							1.14
I							1.14
W							